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(54) **X-RAY IMAGING DEVICE AND X-RAY IMAGE FORMING METHOD**

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(57) **ABSTRACT**

An X-ray imaging apparatus includes an X-ray generator configured to generate X-rays and radiate the X-rays to an object; an X-ray detector configured to detect the X-rays that have passed through the object and convert the detected X-rays into a signal; and a controller configured to generate a single energy X-ray image and a plurality of multiple energy X-ray images using the signal and control a display to display the generated single energy X-ray image and the plurality of multiple energy X-ray images together.

